

Banker for the World: Global Capital and America's Financialization

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Abstract

Financialization may constitute the single most important development in the American political economy. Yet, this development is not fully understood. Existing treatments attribute financialization to the rising power of the financial services providers and their consequent ability to press politicians to deregulate their industry. We offer an alternative explanation rooted in Americas global hegemony. More specifically, we argue that the dollars role as the worlds primary reserve currency, the willingness of American private and public institutions to support the value of dollar-denominated assets in periods of market stress, and a comparative advantage in cross-border intermediation that American banks held placed the US at the center of the global financial system. As a result, as states in the European Union and emerging markets liberalized their capital accounts beginning in the 1980s, foreign demand for dollar-denominated assets and for the services provided by American financial firms increased dramatically. We demonstrate empirically that financialization occurred as a response to these global changes rather than as a consequence of financial deregulation.

The rapid growth of the financial sector since the 1980s has been the most significant change to the American economy in the post-war period. Over the past thirty-five years, the share of national income generated by the financial services industry has increased by more than fifty percent, rising from less than five to more than eight percent of GDP. Although this share may seem small, finance is the proverbial tail that wags the dog. Its expansion has meaningfully contributed to rising income inequality as the extraordinarily high earnings of its executives have raised the income share of the top one percent of the US income distribution. The industry has also been the primary source of instability in the American real economy over the last three decades, with the subprime crisis of 2007-2009 being only the most recent episode in which financial weakness pushed the real economy into deep recession.

Despite the importance of financialization and its serious implications for the American political economy, our understanding of the processes that have caused it remains incomplete. Contemporary scholarship attributes financialization to dynamics wholly internal to the United States. The growth of finance is characteristically conceptualized as resulting from the loosening of the restrictions limiting the types of financial activities firms could engage in and from the failure to tighten the restrictions on derivatives and other innovations during the 1980s and the 1990s. This regulatory loosening in turn presumably reflected a changing balance of power in the American political economy. The 1980 witnessed an acceleration of the decline of union membership and the consequent weakening of labor's political influence while firms and business associations became much more influential. As this shift gained momentum, neoliberal enthusiasm for unregulated markets increasingly displaced the New Deal commitment to regulation.

Although these large-scale changes in power and ideas have clearly affected the American economy, the focus on internal developments must be balanced by appreciation of the important role played by *external* drivers of financialization. Of particular importance have been developments associated with the dollar's role as a global currency. Ever since the

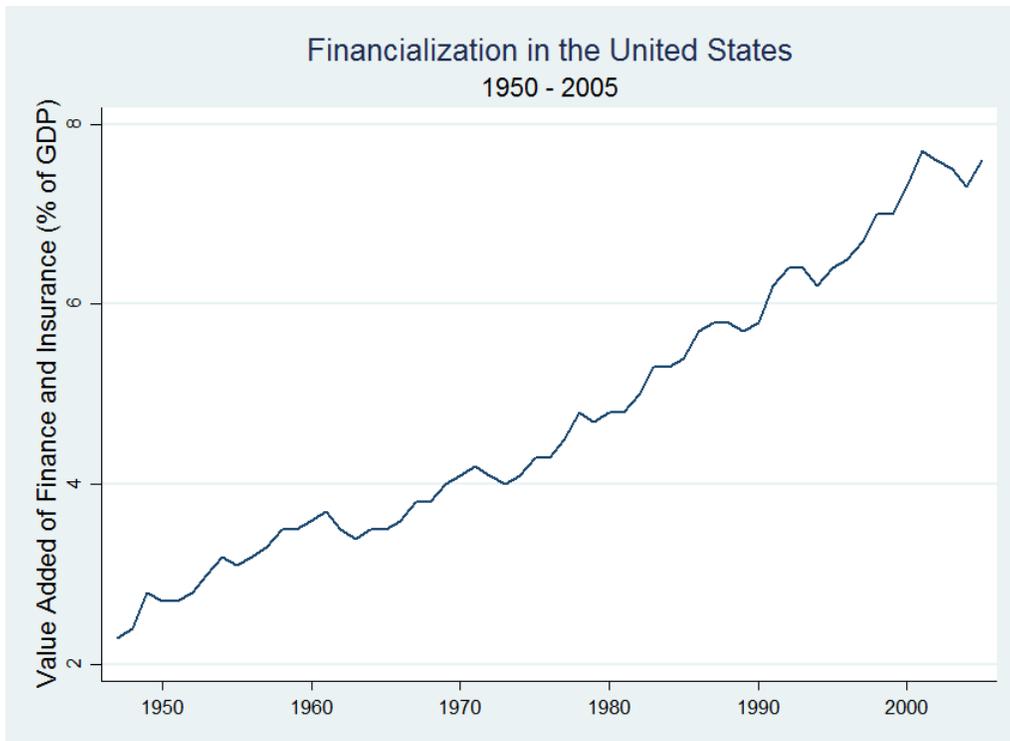
Second World War, the dollar has been the most widely used currency in the world private and public entities hold dollars as a store of value, use dollars to settle their trade transactions, and borrow and lend in dollars. Because the international monetary and financial systems are organized around the dollar, changes in global demand for highly liquid and low risk financial assets have a direct impact on American financial institutions' scale of activities. An increase in this demand generates more business for the American financial services industry. And over the past thirty years, global demand for dollar denominated assets has risen substantially. On the one hand, governments and their monetary authorities have dramatically increased their foreign exchange holdings since the early 1990s. On the other hand, policymakers' decision to remove most restrictions on the ability of private agents to participate in foreign markets - first taken in Europe during the 1980s and subsequently adopted in many emerging economies in the 1990s - enhanced private demand for dollar-denominated assets. As foreign demand rose, the American financial services industry expanded in response. American financialization has therefore been driven by and a central component of the globalization of finance that began in the 1980.

We develop this perspective in three steps. We begin by highlighting the financialization of the American economy and by critically reviewing the existing explanations of this phenomenon. We then develop our argument. Here, we describe the dollar's role in the international economy, note the increase in global demand for dollar-denominated assets, and develop a statistical model to evaluate the effect of this rise on American financialization. In order to provide additional support for our theory and to explore the broader repercussions of the dollar's role as a global currency, we employ a recently-developed compositional analysis technique to model the impact of a change in global demand for US dollars on the structure of the American economy, demonstrating that the financial sector expands as demand for the US currency increases. The final section draws broader conclusions from our analysis.

Financialization of the American Economy

Existing scholarship has not yet converged upon a single definition of financialization. Some scholars look at the return on financial assets as a rising share of the profits of non-financial enterprises (Krippner 2005). Others examine the growth of financial service providers since the 1980s with a particular focus on the increase in size of financial services relative to other sectors of the American economy (e.g., Witko, 2016). Still others highlight the emergence of a finance culture in the United States as households actively embrace financial strategies as a means to manage their consumption, indebtedness, and saving (Fligstein and Goldstein 2015, 576). In an attempt to capture the multidimensional nature of financialization, Epstein conceptualizes it as a process that grants an increasing role to financial motives, financial markets, financial actors, and financial institutions in the operation of the domestic and international economies (Epstein 2006, 3).

However one defines it, financialization is evident in two broad measures of economic activity. The most direct measure of financialization, and the one we focus on in the rest of this paper, is the value added by the financial services industry. We conceptualize financial services in terms of the Bureau of Economic Analysis' definition of Finance and Insurance. This conception of financial activity is the sum of the value added generated by credit intermediation, the management of securities, and insurance. By this measure, the contribution of financial services to the American economy expanded by more than 50 percent between 1980 and 2007, from 4.9 percent of GDP in 1980 to 7.7 percent in the decade preceding the 2008 crisis (figure 1). A second and indirect measure of financialization is evident in data on the source of corporate profits. Krippner, for instance, calculates the ratio of portfolio income to corporate cash flow for non-financial firms to gauge the importance of financial assets as a source of total corporate profits in non-financial sectors. She finds that profits generated by financial activities rose from 20 percent to 50 percent of non-financial corporate profits between 1980 and 2001 (Krippner 2005, 189). Both measures point to the same conclusion: financial activity began a rapid expansion in the late 1970s and the early 1980s.



As noted by Davis and Kim (2014), this growth marks a fundamental discontinuity between the immediate post-war period, which was primarily driven by industrial production, and the current era, in which finance assumes a much larger role.

This American experience with financialization is unique among the advanced economies in two ways. First, according to a recent OECD study, value added by financial services in the Euro zone - currently standing at approximately five percent of GDP (OECD 2015, 11) - is substantially below its level in the US. The financial services industry in Japan is also smaller and has been fairly stable since the mid-1980s, fluctuating between 5 and 6 percent of GDP. Even the UK, where financial services contributed a larger share of GDP than in the US at the peak of the real estate bubble in 2006, has exhibited no trend of increasing financialization since the 1980s. The British financial services industry accounted for about 6 percent of GDP in 1985 and about 6 percent of GDP in 2002. The financial services industry thus constitutes a larger share of output in the US economy than in the Euro zone, the UK, and Japan. Second, only the American economy has experienced a pronounced

long-run trend of rapidly increasing financial services activity. While the financial sector has expanded noticeably in some European and many emerging market economies since the 1970s (ILO 2009), its growth has been cyclical rather than secular.

Explaining Financialization: Politics as Organized Combat?

The dominant current explanation of American financialization is the politics as organized combat perspective (Hacker and Pierson 2010; Johnson and Kwak 2010). This theoretical approach attributes economic outcomes to changes in the balance of power between business organizations and labor. Hacker and Pierson assert that the period since 1970 has seen the rising influence of organized business interests in public policy. The number of corporations with public affairs offices in Washington grew from 100 in 1968 to over 500 in 1978. In 1971, only 175 firms had registered lobbyists but by 1982, 2,445 did (Hacker and Pierson 2010, 176). The authors also emphasize the increased collective capacity of business, a development that allowed it to mobilize more proactively and on a much broader front (Ibid). At the same time, the political power of the middle class fell, in large part as a consequence of the decline of unions as influential actors in the American political economy. In the early postwar period, they argue, organized labor constituted by far the most significant organized interest with a sustained stake in the material circumstances of those with modest means (Hacker and Pierson 2010, 180). By the early twenty-first century, however, unions represented only 7.2 percent of private sector workers (ibid, 179). In the context of financialization, the POC perspective suggests that the mobilization and power of organizations representing the winners and losers in the party and organized interest system are likely to be critical determinants of the rate [of] financialization (Witko 2016, 353). More directly, financialization is a consequence of the growing political influence of the financial services industry.

The politics as organized combat perspective offers a seemingly compelling explanation for financialization, but it doesn't fully articulate the causal mechanism through which changes in the balance of power between labor and business led to the growth of the American financial services industry. One strand of the literature sees financialization as an unintended consequence of government actions. According to this current, policies adopted to cater to the core constituencies of political parties have unforeseen implications for the broader structure of the economy (Krippner 2011). For instance, Witko suggests that an increase in income taxes on the wealthy to finance infrastructure under Democrats might have reduced investment in stocks, thereby slowing financialization (Witko 2016, 355). Similarly, a cut in top income taxes under Republicans might have enhanced incentives for a shift toward compensation via stock options, propelling financialization (Volscho and Kelly 2012, Fligstein 1990). Krippner (2011) goes a step further suggesting that, in an attempt to overcome the resource constraints of the 1970s and alleviate the building tension between capital and labor, policy-makers sought to liberalize foreign capital markets. Government actions therefore condition markets, unleashing dynamics that transform the economic structure (Kelly 2005, 2009).

More typically, though, scholars argue that financialization has been a consequence of financial deregulation (Tomaskovic-Devey and Lin 2011; Witko 2016). This perspective views the state as highly responsive to powerful special interests who promote a policy framework favoring their agenda (Palley 2007; Parenteau 2006). The new regulatory framework, designed to reverse the decline in the rates of return to capital that occurred in the 1970s, removed obstacles to financial activity and refrained from regulating new financial products. Consequently, deregulation fundamentally shifted the basic structure of the economy to favor the financial sector (Tomaskovic-Devey and Lin 2011, 543) and uncuffed financial markets (Palley 2007). It reduced the regulatory oversight over current and emerging investment devices, [and thereby] encouraged financial investment over physical capital investment and unleashed speculation, borrowing, and trading with securities (Witko 2016, 356). Further-

more, it permitted financial companies to grow larger and enter into new financial activities (Witko 2016, 356). In the absence of such transformations, financialization could not have occurred (Lapavitsas and Powell 2013). Driven by the interests of prominent financial actors, the state's strategic withdrawal from financial markets via deregulation has thus promoted the growth of the financial industry.

Although the dramatic reorganization and growth of the American financial services industry and financial deregulation co-evolved, the sequencing of this co-evolution has not been entirely consistent with the expectations of the politics as organized combat model. Three differences are especially important. First, whereas the politics as organized combat perspective holds that reforms to the regulatory framework preceded important changes in the activities of banks and bank-holding companies, the more typical sequence in the postwar American political economy has involved a change in the activities of financial institutions that were subsequently confirmed by changes to regulatory arrangements. This sequence is evident in the evolution of two of the most important postwar banking regulation frameworks: the prohibition on interstate banking and the 1956 Bank Holding Company Act.

The eventual repeal of state regulated banking illustrates the inconsistencies in the temporal dynamics proposed by the politics as combat perspective. Since issuing bank charters generated revenues (Kroszner and Strahan 1998), state governments had historically imposed strict control over intra- and inter-state banking. Accordingly, state laws limited banks' ability to open branches and prohibited out-of-state banks from owning local banks. These arrangements began to change in the mid-1970s. In 1975, in an unprecedented move, Maine allowed out-of-state banks to enter the state on a reciprocal basis. By the end of the 1980s, such bilateral and multilateral reciprocal arrangements had extended to 38 states, dramatically expanding interstate banking. Faced with a new reality, the federal administration signed the 1994 Riegle-Neal Interstate Bank and Branching Efficiency Act, effectively removing restrictions on bank operations across state lines. Thus, contrary to the traditional explanation, deregulation began at the state level and only reached the federal level once

changes in practice had been broadly adopted. Moreover, the process of regulatory change was initiated in a peripheral and largely rural state rather than in a major banking center.

The 1999 Gramm-Leach-Bliley Act, which eliminated the wall separating commercial and investment banking, followed a similar trajectory. The 1956 Bank Holding Company Act had prohibited banks from engaging in commercial activities in addition to accepting deposits and making commercial loans. Although this legislation limited the activities that banks could pursue, it proved incapable of completely isolating investment from commercial activities. In the early 1980s, non-bank commercial corporations such as Sears, GM, and GE began to create structures that either accepted deposits (money market mutual funds) or made commercial and consumer loans (mortgage finance companies and credit card companies). The emergence of these new structures had important implications for the banking system: traditional banks attracted fewer deposits as individuals shifted their savings into these vehicles, and traditional bank lending declined as individual and corporate clients began to secure credit through these new channels. Commercial banks responded to these developments by diversifying their activities into these theoretically prohibited areas by exploiting a loophole in the BHCA (Section 20 exemptions). By the early 1990s, they had created entities that offered the same services as non-bank financial institutions. The 1999 Gramm-Leach-Bliley Act then codified changes in banking activities that had already taken place (Barth, Wilcox, and Brumbaugh 2000; Yeager, Yeager, and Harshman 2007, 336).

Apart from presenting a sequentially imprecise depiction of the deregulation process, existing scholarship also inaccurately characterizes finance as a homogenous entity. Tomaskovic-Devey and Lin (2011, 547), for instance, differentiate between financial and nonfinancial actors, implying that the fight over financial reform pits the financial sector against labor and other interest groups. Witko (2016, 355) hypothesizes that greater political mobilization by the financial industry is associated with more rapid financialization. In reality, however, distinct types of financial service firms engage in different activities and have different preferences over regulatory arrangements. As a consequence, the politics of

regulation have been dominated by conflict between different segments of the financial services industry. Pagliari and Young (2016) document some of this heterogeneity; their work on the interest group ecology of lobbying on financial regulation contrasts regulated and unregulated financial firms. Thus, even though American finance is often depicted as a system composed of a few very large banks with common interests, this system is in fact remarkably heterogeneous, and the smaller community banks have very different regulatory interests than the large globally active banks.

For most of the postwar period, large national commercial banks fought against against the much smaller state-chartered banks and the emerging set of non-bank financial institutions. The BHCA, for instance, reached the legislative agenda because small Western state-chartered banks sought federal regulatory protection against the competitive threat they perceived in a large and growing Transamerica (Omarova and Tahyar 2011). As Klebaner (1958, 314) noted, "[s]pearheading the campaign for a strong law were notably the members of the highly vocal Independent Bankers Association of America and the allied I.B.A of the Twelfth Federal Reserve District, who viewed the bank holding company as a veritable instrument of the devil." During the 1980s, when commercial banks pressured to alter the BHCA in order to expand their activities, they met with the strong resistance of state-chartered banks and newly emerging non-bank banks (Omarova and Tahyar 2011, 12425). Similarly, pressure from internationally-active commercial banks to relax the federal restrictions on interstate banking was once again countered by state chartered banks in the early 1990s. Indeed, according to Kroszner and Strahan (1999), the most important source of opposition to financial liberalization came from states in which small banks held a large share of banking assets. Thus, the political combat at the center of financial deregulation pit one group of financial institutions against another. Contrary to conventional accounts, finance has not been a unified actor.

Lastly, commercial bank pressure for deregulation emerged from a position of relative weakness and not, as the organized political combat literature argues, from a position of

strength. Large commercial banks persistently pushed for liberalization because they were greatly disadvantaged by ongoing changes in the American and the world economy. During the seventies and much of the eighties, commercial banks were hamstrung by regulations that restricted their ability to adapt to the greater macroeconomic volatility of the period. As the Federal Funds rate rose sharply in the late seventies, for instance, Regulation Q prevented commercial banks from increasing their deposit rates to keep pace. As a result, banks lost depositors as savers shifted to the new money market funds. At the same time, corporate borrowers, the traditional clients of commercial banks, increasingly turned to commercial paper rather than bank credit to satisfy their short-term funding needs. Commercial banks responded by pressuring Congress to change existing rules to allow them to offer money market accounts. Congress obliged with the 1982 Garn-St. Germain Act. As the 1980s progressed, commercial banks found themselves increasingly challenged both domestically and internationally by foreign banks. In Senate Banking Committee hearings held in 1991, the Chief Executive Officer of Chase Manhattan Bank, speaking on behalf of the American Bankers Association (ABA), expressed concern that [American] banks were losing their competitive edge in international financial markets (Mulloy and Lasker 1995, 261). Japanese and European bankers as well as EU Commission officials confirmed this conclusion, emphasizing that American banks were handicapped in international competition by restrictions on domestic geographic expansion that is, by limits on branching and interstate banking (Mulloy and Lasker 1995, 262).

Overall, then, historical accounts do not support the (implicit) characterization of the politics of financial deregulation prevalent in the politics as organized combat perspective. The struggle over liberalization did not pit labor against finance. Even during the early postwar period, when it was at its strongest, organized labor never testified in front of congressional committees in order to voice its position on any of the major pieces of financial legislation. Unions and civil society organizations failed to mobilize effectively and remained relatively inactive and underrepresented in financial regulatory politics during the late 1990s

and the early 2000s as well, leaving the regulatory process dominated by organized business (Pagliari and Young 2016). Moreover, the opponents of liberalization were not obviously aligned with organized labor. The staunchest defenders of the regulatory status quo were small banks that served small businesses in small communities. Rather than with these businesses, labor, which was always strongest in auto and steel production, was more closely aligned with GM and Ford, both of which developed large nonbanks that specialized in consumer credit. The fact that financial liberalization occurred in a period of declining union strength therefore is more coincidental than causal.

Instead, the politics of deregulation pit some segments of financial services against other segments of the industry. This version of political combat sought to change rules that allowed some groups to retain rents or high returns in periods of rapid economic change while simultaneously restricting the rights of other groups to enter into these activities. And rather than being pushed by the strong, the pressure for deregulation came predominantly from the set of actors within the industry at the greatest disadvantage from the existing rules. Finally, rather than setting the course for subsequent financial development, regulatory reform tended to follow changes in banks' activities and thus codified existing rather than created new practices. The process exhibited an evolutionary dynamic, with financial institutions adapting to changes in the economic environment, regulators adapting to changes in bank behavior, and banks adapting to the new rules. It is difficult, therefore, to sustain the claim that deregulation has been the primary driver of financialization. It might have subsequently facilitated the growth of the financial sector, but it did not jumpstart or single-handedly propel this process.

Financialization in an Open Economy

Our alternative explanation is rooted in the global role of the American financial services industry. Though there may be segments of the American economy that can usefully

be examined and understood in isolation from the global economy, the financial sector is not among them. Indeed, one would have to search hard for an industry that has been a more central component of America's postwar global economic hegemony than the American financial system. The American financial system has served as a global financial center in three distinct but interrelated ways: it has issued the world's principal reserve currency, the dollar; it has functioned as a market maker for globally held dollar-denominated assets; it has been banker to the world by intermediating between savers and borrowers residing in different national economies.

Global monetary and financial arrangements have been organized around the dollar ever since the end of World War II. Indeed, the American currency factors into practically every type of international transaction that occurs today. The dollar's dominant international role is clearly evident in a few standard metrics. According to the IMF, ninety governments currently peg their currency to the dollar (Goldberg 2011). As a result, nearly 64 percent of all global foreign exchange reserves are held in dollars. This is three times more than the second most widely held currency, the euro, whose share of global holdings does not exceed 20 percent. This status as the world's primary reserve currency remains uncontested despite the emergence of potential rivals, such as the Renminbi (RMB). It has further reinforced the dollar's central role in financial transactions, making it the most heavily traded currency in foreign exchange markets. According to the Bank for International Settlements, between 85 and 89 percent of all transactions between 1999 and 2016 were carried out in dollars (Bank for International Settlements 2015). As the second most-heavily traded currency, the euro was involved in only a third of all transactions. In addition, the dollar is the most important private funding currency. European banks, for instance, engage in substantial dollar-based lending. The European Central Bank estimates that sixty percent of the global stock of international debt securities is denominated in dollars.

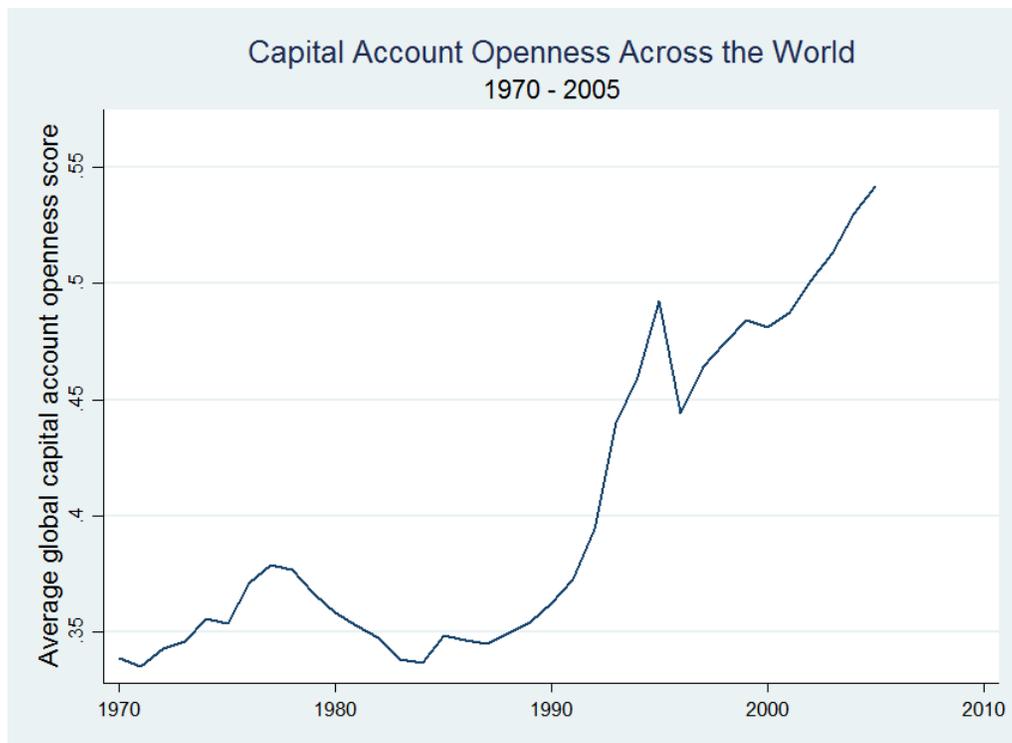
Second, the American financial system has been a market maker for globally held dollar denominated assets. Strictly speaking, a market maker is a firm that stands ready

to buy and sell a particular stock on a regular and continuous basis at a publicly quoted price.¹ Firms that perform this function provide liquidity to the market and profit from the spread, but in doing so bear risk arising from holding assets whose value can fall before a buyer is found. In the American markets, primary dealers and increasingly non-bank traders make markets for US government debt instruments, thereby insuring that any holder of these assets bears extremely low liquidity risk. Market making by private firms is in turn supported by liquidity provision from the Federal Reserve Bank, which stands ready to purchase high quality assets at normal market value in periods of market stress. During the 2007-09 global financial crisis, for instance, the Fed extended swap lines to fourteen foreign central banks in order to create dollar liquidity for foreign firms. As a result, American capital markets have remained the world's deepest and most liquid.

Third, American financial institutions collectively function as a banker to the world or, in the terms of a more recent characterization, as a global venture capital fund. In this capacity, the American financial system intermediates the flow of funds between parties distributed across the world. To do so, American financial firms tend to borrow abroad on short term and at low interest rates and then lend abroad for longer terms and higher yields. Kindleberger (1965) characterized this as the standard maturity transformation function of banking. More recently, American firms have acted like venture capitalists, investing abroad in higher risk assets that they finance with short term liabilities (Gourinchas and Rey 2007). For instance, cash and bank deposits, Treasuries and GSEs, and a range of money market instruments dominate US foreign liabilities. In contrast, US foreign assets are dominated by corporate equities and foreign direct investment.

Because the American financial system is at the center of the global financial system, the growth of American finance has been and continues to be strongly influenced by global growth of private and public cross-border capital flows. Financialization is driven by global financial activities because the growth of global capital flows increases world demand for

¹ <http://www.sec.gov/answers/mktmaker.htm>



dollar-denominated assets as well as increasing global demand for cross-border financial intermediation. And during the last thirty years, private and public participation in global capital markets has increased dramatically.

The growth of private cross border capital flows since 1980 is a consequence of the growing willingness of governments to liberalize capital account transactions. Capital account liberalization began to spread across the global economy in the mid-1980s. Figure 2, which plots the unweighted mean capital account liberalization score for all 182 countries included in Chinn and Ito's dataset, shows an almost uninterrupted trend toward liberalization between 1970 and 2015. This trend accelerated during the mid-1980s, when European governments liberalized their capital accounts in connection with the Single European Act and the transition to the European monetary union. Emerging market governments followed suit during the 1990s. Capital account liberalization thus enabled private agents resident in one country to participate in overseas financial markets.

State participation in global finance also increased substantially in the mid-1990s.

The liberalization of capital account transactions resulted in considerable market volatility and frequent banking and currency crises. The standard international response to these crises has entailed participation in International Monetary Fund stabilization programs. Nevertheless, in the wake of the 1997 Asian financial crisis, which saw the imposition of what many governments deemed to be excessively harsh conditions, many states decided to accumulate significant foreign exchange stockpiles in order to decrease their vulnerability to future crises. They hoped that this would make crises substantially less likely because markets would no longer doubt that the state held sufficient reserves to defend the peg. As a result, state demand for dollar-denominated assets rose dramatically from the mid-1990s.

The impact of these changes on the volume of global cross-border capital flows has been enormous. As figure 3 illustrates, gross cross border capital flows increased dramatically between 1980 and 2005—the peak of the US property bubble—whether we measure such flows in absolute terms or as a percentage of global GDP. And because the US financial system functions as a global financial system, American firms intermediated a very large share of these gross flows. Indeed, available data on gross outflows from the world's most deeply integrated economies indicates that American financial institutions intermediated between 30 and 40 percent of these global outflows annually. This sharp increase in the global demand for US financial services, we hypothesize, has been the principal driver of the growth of the American financial services industry.

Empirical Tests

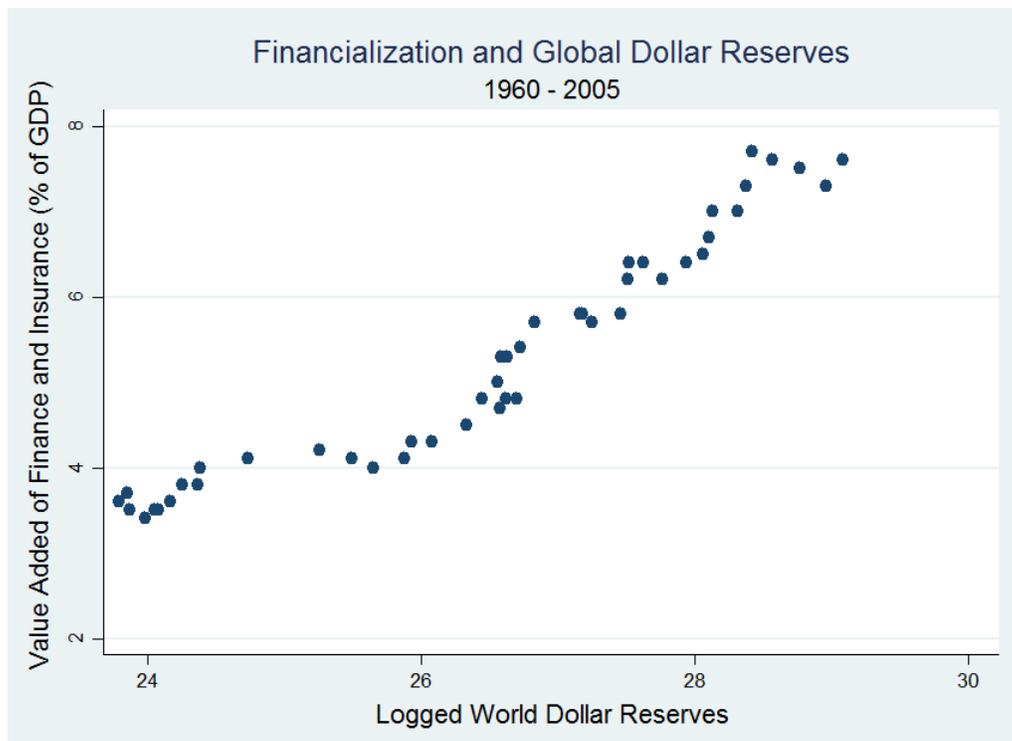
To evaluate empirically the relationship between the growth of global financial transactions and the growth of the American financial services industry, we estimate a statistical model of the financial sector's contribution to American GDP between 1960 and 2005. Our dependent variable is *Value Added by Finance*, which we measure as the sum of the value

added by financial intermediaries and insurance firms as a share of GDP (BEA, 2015).² As figure 1 shows, *Value Added by Finance* has been steadily increasing since the mid-1940s, rising from 2 to approximately 8% of GDP.

We employ two measures to capture global participation in international financial markets. The first one - *Forex Reserves* - captures foreign government demand for dollar-denominated assets. International dollar reserves are an appropriate measure because they reflect the importance that other states attach to dollar denominated assets. Higher levels of dollar reserves indicate that foreign actors view the dollar as indispensable and seek to acquire it. Moreover, and no less importantly, decisions by foreign states to accumulate foreign reserves are independent of one another and are exogenous to the size of the US financial services industry.

Our second measure - *Capital Account Openness* - captures the ability of foreign private agents to purchase dollar-denominated assets. We calculate this measure by averaging the scores of all countries included in the Chinn and Ito dataset between 1970 and 2005. Our logic here is that the level of restrictions that governments place on the ability of private individuals to buy and sell foreign assets affects the demand for American financial services. When regulatory obstacles are low, private actors will seek investment opportunities abroad, and thus American financial firms will face growing demand for their services. Our reliance on *Capital Account Openness* as a proxy for private flows has one additional advantage. We cannot use a measure of actual private capital flows because any such measure is contaminated for our purposes since these flows are as likely to be a consequence of a larger American financial services industry as a cause of its growth. Using *Capital Account*

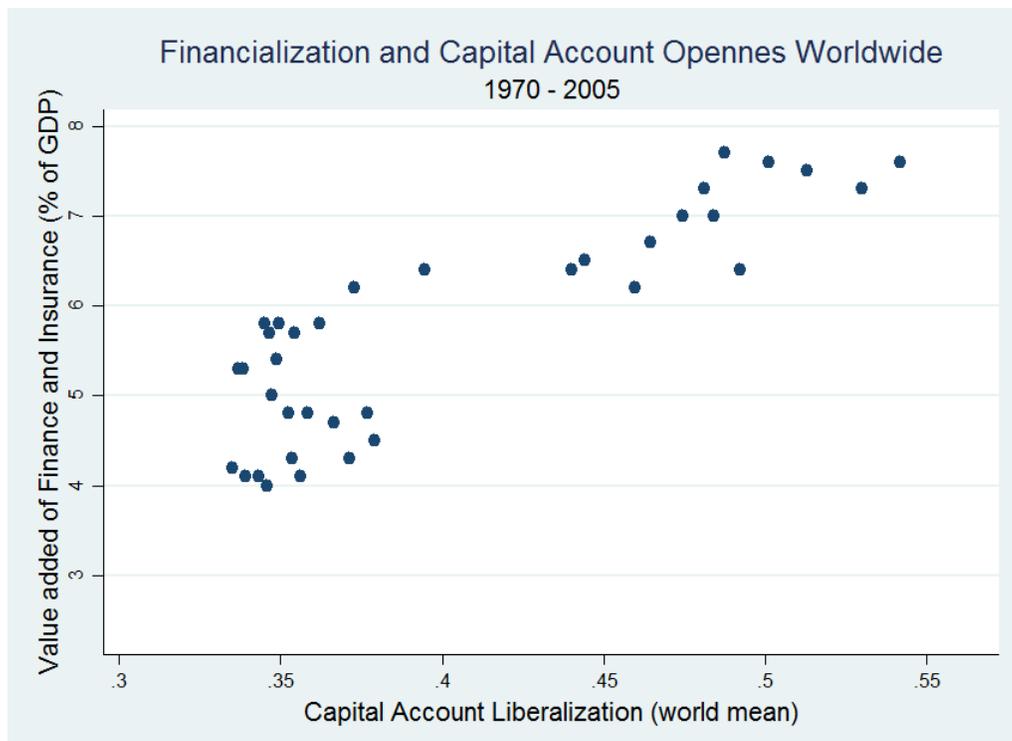
²We thus use NAICS 52, which includes establishments primarily engaged in financial transactions (transactions involving the creation, liquidation, or change in ownership of financial assets) and/or in facilitating financial transactions Existing work uses as its dependent variable the sum of NAICS 52 and 53 (i.e., FIRE). We omit NAICs 53 because the activities therein do not involve financial intermediation. According to the BLS, entities in this sector engage primarily in renting, leasing, or otherwise allowing the use of tangible or intangible assets, and establishments providing related services. The major portion of this sector comprises establishments that rent, lease, or otherwise allow the use of their own assets by others. The assets may be tangible, as is the case of real estate and equipment, or intangible, as is the case with patents and trademarks. See US Department of Labor, Bureau of Labor Statistics, Industries at a Glance, <http://www.bls.gov/iag/> (accessed 10/14/2016).



Openness eliminates this problem because its average global level is exogenous to the size of the American financial services industry.

Correlation analysis offers initial support for our hypothesis. Figures 3 and 4 depict the relationship between *Value Added by Finance*, *Capital Account Openness* and logged *Forex Reserves*. The positive slope readily apparent on both graphs suggests that the US financial services industry grew in response to the broader liberalization of cross-border capital flows and the pronounced increase in global US dollar reserves. Global demand for dollar denominated assets is evidently strongly correlated with the expansion of the American financial services industry between the 1960s / 1970s and 2005.

Although these bivariate correlations are useful, we can better assess the relationship within a multivariate time-series framework. We rely on Witko (2016) for our basic specification. This specification includes control variables for inflation, stock options, the federal funds rate, non-financial profits, financial deregulation, and the relative strength of organized labor, capital and the political left. When used as executive compensation, stock



options can lead to an increase in equity prices, so the average value of stock options grants for the three highest executives of a large sample of companies is included. Because the decline of the real economy might have caused a switch toward the financial sector, we add a measure of the growth rate of non-financial corporations' profits. Democratic control is an additive index that assumes the value of 3 if the Democratic Party controls the presidency, the Senate, and the House of Representatives. It is meant to account for the possible alignment of Democrats with workers against the interests of finance. Union density captures the political influence of organized labor and reflects the percentage of non-agricultural workers covered by union collective bargaining agreements. A stronger and better organized working class presumably obstructs financialization by protecting worker interests and slowing down deregulation. The latter is a cumulative count measure which accounts for all key legislative acts and regulatory changes that deregulated the financial sector. It is built using the timetable elaborated by Matthew Sherman of the Center for Economic and Policy Research. Capturing the financial industry's engagement in politics, FIRE mobilization is calculated

as the percentage of stories published in the American Bankers Association (ABA) Banking Journal that is related to politics and policy. According to Witko (2016), the ABA is the main umbrella lobbying organization for the largest banks, which actively pushed for deregulation in the 1980s and the 1990s. Table 1 in the appendix details the definitions and sources of these variables.

We estimate two sets of models with each of the two independent variables. As a first step, we model the relationship between financialization and global demand for US dollars within an error correction framework. Designed to deal with cointegration, ECMs estimate the speed at which the response variable returns to equilibrium following a deviation from an established trend. They allow for a test of both short- and long-run effects through the inclusion of differences and lags of the relevant covariates. Employing an ECM therefore not only enables us to verify if financialization and global demand for US dollars are correlated at a statistically significant level, but also helps us to determine how changes in the independent variable affect the outcome. We also estimated a series of lagged dependent variable models (LDVM) as a robustness check. As their name suggests, LDVMs include a lagged value of *Value Added by Finance* along with the remaining covariates. Lagged dependent variable models are quite conservative, as the inclusion of a lagged value of the dependent variable can suppress the statistical significance of the other covariates featured in the model. Consequently, they constitute a hard test for our hypothesis.

Results

Table 1 summarizes the results from our statistical analysis. Models 1 and 2 operationalize global demand for US dollars through the logged value of *Forex Reserves*. In contrast, models 3 and 4 employ *Capital Account Openness* as the principal independent variable.³ Models 1 and 3 are error correction models, while models 2 and 4 are LDV models.

³Since USD reserves and capital account liberalization are highly correlated at the 0.92 level, their simultaneous inclusion in the statistical models is not advisable.

Table 1: Error Correction and Lagged Dependent Variable Models

	Model 1	Model 2	Model 3	Model 4
	b/se	b/se	b/se	b/se
L.Value added by finance	-0.730*** (0.17)	0.442*** (0.14)	-1.020*** (0.18)	0.348* (0.18)
D.Forex reserves	0.197 (0.24)			
L.Forex reserves	0.329*** (0.10)	0.207** (0.08)		
D.Capital account openness			3.300 (1.91)	
L.Capital account openness			3.940*** (1.08)	1.708* (0.98)
D.FIRE mobilization	0.008 (0.01)		0.005 (0.01)	
L.FIRE mobilization	0.007 (0.01)	-0.001 (0.01)	0.004 (0.01)	0.001 (0.01)
D.Deregulation	-0.047 (0.07)		-0.013 (0.07)	
L.Deregulation	0.022 (0.04)	0.036 (0.03)	0.019 (0.06)	0.040 (0.05)
D.Union density	-0.092** (0.04)		-0.160** (0.05)	
L.Union density	-0.040* (0.02)	-0.034** (0.01)	-0.127*** (0.02)	-0.074*** (0.02)
D.Democratic control	-0.014 (0.05)		0.074 (0.05)	
L.Democratic control	0.011 (0.05)	-0.025 (0.03)	0.004 (0.06)	-0.026 (0.05)
D.Inflation	-3.447* (1.87)		-1.782 (1.67)	
L.Inflation	-4.365* (2.25)	-0.801 (1.38)	-1.924 (1.55)	-0.028 (1.23)
D.Non-financial profits growth rate	-0.218 (0.20)		-0.009 (0.19)	
L.Non-financial profits growth rate	-0.822** (0.33)	-0.341* (0.19)	-0.659** (0.29)	-0.262 (0.20)
D.Stock options	0.025 (0.03)		0.019 (0.03)	
L.Stock options	0.112*** (0.03)	0.076*** (0.02)	0.128*** (0.03)	0.082*** (0.03)
D.Federal funds rate volatility	0.211** (0.10)		0.304** (0.11)	
L.Federal funds rate volatility	0.201 (0.16)	-0.054 (0.10)	0.447** (0.17)	0.042 (0.12)
Constant	-4.035 (2.51)	-1.798 (1.77)	6.459*** (1.07)	4.358*** (1.09)
R-squared	0.681	0.993	0.817	0.991
N	45	45	35	35

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.10$

The coefficients for our two main variables of interest suggest that American finan-

cialization has indeed grown in line with increased global demand for dollar denominated assets. The coefficients for *Capital Account Openness* and the level of *Forex Reserves* carry positive signs and are statistically significant in all models. They remain important even in the LDV models despite the short duration of the time series. According to these estimates, a 2-standard-deviation change in *Forex Reserves* is associated with a 0.80 percentage-point increase in the *Value Added by Finance*, while a two standard deviation increase in *Capital Account Openness* leads to a 0.28 percentage-point rise in *Value Added by Finance*. These are substantively large changes given that the mean value of the dependent variable is 4.77.

The positive and statistically significant coefficients on the lagged *Capital Account Openness* and *Forex Reserves* in the error correction models (models 1 and 3) indicate that there is indeed a long-run relationship between international factors and *Value Added by Finance*. What we observe are persistent effects arising from changes in global participation in international finance. These effects are substantively meaningful: a one-point increase in *Forex Reserves* is associated with a 0.45 percentage points increase in the *Value Added by Finance*. Even more impressively, a 1-point rise in the average global level of *Capital Account Openness* leads to a 3.96 percentage points rise in financialization.⁴ *Value Added by Finance* readjusts to the long-run equilibrium between it and capital account liberalization and global reserves relatively quickly. This suggests that changes in the latter can induce persistent and lasting changes in financialization. Overall, therefore, we find substantial support for our hypothesis that the growth of the American financial services industry has been driven at least in part by international developments, and in particular by the dramatic increase in private and public demand for and transactions in dollar-denominated assets.

In contrast, our estimates provide only mixed support for the politics as organized combat perspective. Measures of the political power of the financial services industry that we import directly from Witko (Deregulation and FIRE mobilization) fail to return statistically

⁴The long-run impact of the level of each independent variable on the DV within the ECM framework is estimated by dividing the beta coefficient returned by the lagged value of that IV by the lagged value of the DV.

significant coefficients. Nor do we find evidence to support the hypothesis that Democratic Control of Government has a systematic impact on the growth of the financial services industry. We do find a statistically significant relationship between Union Density and the Value Added by Finance, however. The estimated substantive impact of the former is relatively large: a two-standard-deviation change in Union Density is associated with a one-half percentage-point increase in Value Added by Financial Services. Whether this relationship is causal, however, remains unclear.⁵

Robustness Checks

We carry out a series of robustness checks to test the sensitivity of these results to different modifications. Since one of our main findings - that deregulation has not been a systematic driver of financialization - contradicts the dominant theoretical perspective developed to explain the growth of the financial sector, we subject this conclusion to additional scrutiny by incorporating an alternative measure of deregulation. This measure, constructed by Philippon and Reshef (2012), is an index based on four dimensions: 1) bank branching restrictions, operationalized through the share of the US population living in states that have removed intrastate branching restrictions, 2) separation of commercial and investment banking, which reflects the 1933 adoption, the subsequent weakening, and the 1999 repeal of the Glass-Steagall act, 3) interest rate ceilings, which captures the ceilings in effect from 1933 to 1983, and 4) the separation of banks and insurance companies, which was introduced in 1956 and abolished in 1999. Thus, in contrast to Witko's measure, this variable also accounts for the gradual weakening of major elements of the regulatory arrangements put in place in 1933 as well as for the scope of some of the legislative reforms that affected

⁵Table 1 also provides empirical support for the expectation that higher stock options will lead to the expansion of the financial sector while higher inflation and higher profits in the non-financial sector will lead to its decrease. Inflation is only statistically significant in model 1. Stock options retain their statistical significance across all models, confirming the idea that as stock options compensation increased, equity prices rose accordingly. The negative coefficient of the real growth rate of profits in the non-financial sector suggests that financialization slows down when the real economy is doing well.

the banking industry during the 1980s and the 1990s. The index ranges between -3 and 1, with higher values indicating less regulation.

Table 2 presents results from estimations that employ this alternative measure. The results corroborate our previous findings: the index returns a coefficient that is not statistically significant in all regressions. This lack of statistical significance cannot be explained by multicollinearity because the index is not highly correlated with any of the other covariates. Thus, even when we use an alternative operationalization for deregulation, we do not find evidence that it is a meaningful predictor of financialization. In contrast, our hypotheses about the impact of *Forex Reserves* and *Capital Account Openness* find additional support as both variables are statistically significant.

We proceed to estimate a series of models that employ two alternative measures of our dependent variable. Our first alternative operationalization, financial output (FINOUT), captures the value of all goods and services produced by the financial sector as a share of national GDP. The second measure, financial income share (FINSH), is the income of all domestic financial intermediaries divided by GDP. Data come from Philippon (2014) who adjusts for heterogeneous firms and households.

Table 3 compares our original error correction models with the same specifications run against our alternative measures of financialization. Our substantive conclusions remain unchanged. Logged *Forex Reserves* and *Capital Account Openness* are statistically significant in all models. Although their p-values are slightly higher in the models with FINOUT, they remain below the critical 0.1 level. Given the short duration of the time series, this threshold is acceptable. Equally importantly, the other results remain consistent with our previous findings. Union Density remains negatively signed and statistically significant, while Deregulation, Democratic Control, and the organizational strength of the financial industry fail to reach statistical significance. The only other variable that attains statistical significance in all models is the Federal Funds Rate Volatility. Interestingly, the sign of its coefficient switches from positive in the financial income share models to negative in the

Table 2: Robustness Checks: Additional Deregulation Models

	Model 4	Model 5	Model 6	Model 7
	b/se	b/se	b/se	b/se
L.Value added by finance	-0.962*** (0.18)	-0.694*** (0.17)	0.472*** (0.14)	0.353* (0.17)
D.Forex reserves		0.128 (0.23)		
L.Forex Reserves		0.331*** (0.10)	0.206** (0.08)	
D.Capital account openness	3.843* (1.83)			
L.Capital account openness	4.387*** (1.02)			2.033** (0.91)
D.FIRE mobilization	0.004 (0.01)	0.005 (0.01)		
L.FIRE mobilization	0.003 (0.01)	0.003 (0.01)	0.000 (0.01)	0.002 (0.01)
D.Deregulation index	0.076 (0.14)	-0.091 (0.15)		
L.Deregulation index	-0.050 (0.13)	0.016 (0.11)	0.066 (0.07)	0.075 (0.09)
D.Union density	-0.156** (0.05)	-0.088** (0.04)		
L.Union density	-0.132*** (0.02)	-0.038* (0.02)	-0.032** (0.02)	-0.076*** (0.02)
D.Democratic control	0.071 (0.04)	-0.006 (0.04)		
L.Democratic control	-0.014 (0.05)	0.011 (0.04)	-0.031 (0.03)	-0.038 (0.04)
D.Inflation	-1.832 (1.63)	-3.860** (1.82)		
L.Inflation	-2.416 (1.67)	-4.640* (2.35)	-1.044 (1.35)	-0.027 (1.23)
D.Non-financial profits growth rate	-0.034 (0.19)	-0.269 (0.20)		
L.Non-financial profits growth rate	-0.699** (0.29)	-0.876** (0.32)	-0.356* (0.19)	-0.263 (0.20)
D.Stock options	-0.005 (0.05)	0.035 (0.04)		
L.Stock options	0.108** (0.04)	0.119*** (0.04)	0.083*** (0.02)	0.088*** (0.03)
D.Federal funds rate volatility	0.343** (0.12)	0.217* (0.11)		
L.Federal funds rate volatility	0.498** (0.18)	0.232 (0.17)	-0.063 (0.10)	0.038 (0.12)
Constant	6.093*** (1.17)	-4.216 (2.60)	-1.756 (1.79)	4.491*** (1.15)
R-squared	0.819	0.675	0.993	0.991
N	35.000	45.000	45.000	35.000

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.10$

Table 3: Robustness Checks: Additional Financialization Models

	Model 9	Model 10	Model 11	Model 12
	b/se	b/se	b/se	b/se
L.Financial income	-0.767*** (0.16)	-0.972*** (0.16)		
L.Financial output			-0.081 (0.11)	0.007 (0.13)
D.Forex reserves	0.002 (0.00)		-0.201 (0.42)	
L.Forex reserves	0.003*** (0.00)		0.402* (0.20)	
D.Capital account openness		0.028 (0.02)		4.111 (4.89)
L.Capital account openness		0.042*** (0.01)		5.123* (2.55)
D.FIRE mobilization	0.000 (0.00)	0.000 (0.00)	0.020 (0.01)	0.011 (0.02)
L.FIRE mobilization	-0.000 (0.00)	-0.000 (0.00)	0.036 (0.02)	0.022 (0.03)
D.Deregulation	-0.000 (0.00)	0.000 (0.00)	-0.141 (0.14)	-0.235 (0.20)
L.Deregulation	0.001 (0.00)	0.000 (0.00)	0.034 (0.10)	-0.158 (0.17)
D.Union density	-0.001** (0.00)	-0.002** (0.00)	-0.039 (0.08)	-0.154 (0.14)
L.Union density	-0.000* (0.00)	-0.001*** (0.00)	0.082** (0.04)	-0.027 (0.05)
D.Democratic control	-0.000 (0.00)	0.001 (0.00)	-0.180* (0.09)	-0.216 (0.13)
L.Democratic control	0.000 (0.00)	0.000 (0.00)	-0.234** (0.09)	-0.338** (0.14)
D.Inflation	-0.030 (0.02)	-0.016 (0.02)	-2.803 (3.73)	-1.541 (4.50)
L.Inflation	-0.038 (0.02)	-0.016 (0.02)	-11.473** (4.45)	-6.243 (3.94)
D.Non-financial profits growth rate	-0.002 (0.00)	-0.001 (0.00)	-0.480 (0.41)	-0.382 (0.50)
L.Non-financial profits growth rate	-0.008** (0.00)	-0.007** (0.00)	-1.179 (0.69)	-0.989 (0.77)
D.Stock options	0.000 (0.00)	0.000 (0.00)	0.103* (0.06)	0.108 (0.07)
L.Stock options	0.001*** (0.00)	0.001*** (0.00)	0.003 (0.05)	0.002 (0.07)
D.Federal funds rate volatility	0.003** (0.00)	0.004*** (0.00)	-0.352* (0.19)	-0.200 (0.28)
L.Federal funds rate volatility	0.004** (0.00)	0.006*** (0.00)	-0.646** (0.29)	-0.420 (0.41)
Constant	-0.042 (0.03)	0.059*** (0.01)	-10.672* (5.61)	0.273 (0.92)
R-squared	0.713	0.839	0.719	0.756
N	45	35	45	35

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.10$

financial output models, implying that federal funds rate volatility might have a differential impact on these two variables.

Compositional Analysis

This conclusion casts doubt on the politics as organized combat perspective and suggests that other factors drove the growth of finance in the US contest. Our central claim is that rising demand for dollar denominated assets meaningfully contributed to this expansion. The latter is one of the primary developments that characterize the structure of the American economy in the post-war period. It was part of a broader and more substantial structural transformation that reshaped the United States' production profile. If finance increased as a share of national GDP, other industries shrank in size to accommodate this expansion. The dynamic relationship between the sectors that comprise the national economy is thus marked by trade-offs changes in one of them are accompanied by simultaneous changes in the others. Consequently, per our argument, the dollar's role as a global currency did not affect only the financial sector; rather, it shaped the evolution of the broader American economy.

Modeling these trade-offs in a time-series framework is challenging, but a recently developed technique allows us to examine how growing demand for dollar-denominated assets changed the American economic structure. Borrowing from the seemingly unrelated regression and the error correction frameworks, Philips et al. (2016) model a dependent variable composed of multiple categories that collectively sum to one. The model then estimates the effect of a change in covariates of interest on the ratio between any two components of the dependent variable. We can thus model American economic output as coming from different sectors and trace how a change in *Forex Reserves* alters the ratio between these contributions. We can then use these estimates to simulate the impact of an exogenous shock in *Forex Reserves* on the size of the financial services industry.

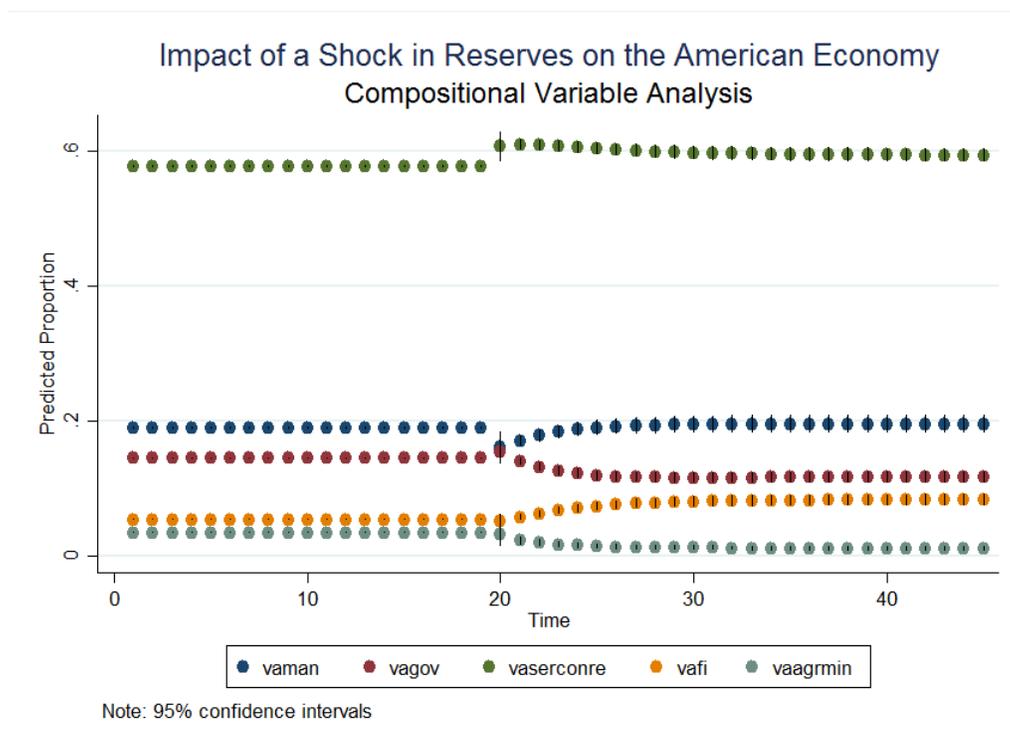
Since we are interested in the broader impact of global demand for US dollars, our

dependent variable is the structure of the American economy. We decompose American economic value added into contributions from five different sectors: finance and insurance, agriculture and mineral production, manufacturing, government services, and other services.⁶ As before, we use Witko (2016) as a guide to model specification and introduce a shock to *Forex Reserves* in period 20 by the magnitude of 2.78, the amount by which global US dollar reserves grew between 1960 and 1980.

The graph below shows how the American economy reacts to this shock. The figure depicts the estimated impact of a one-time increase in *Forex Reserves* on the composition of the American economy. The simulation rests on 1000 iterations covering a 45-year period. As the orange line indicates, the financial sector expands significantly following the sudden rise in reserves. While initially gradual, this increase reaches a new steady equilibrium rather than disappearing at some later period, it persists in time, bringing the value added of finance to a permanently higher value. The 95-confidence-interval, reflected by the small lines contained within the orange dots, is remarkably narrow, indicating that we should be fairly certain about these results.

The fact that a one-time shock in global demand for US dollars is sufficient to induce such a durable change suggests that the global role of the American dollar is indeed important for the evolution of the American economy. If the increase in reserves is sustained in time, it has the potential to push the US economic structure to a different configuration in which finance, insurance, and services take prominence while other sectors decline in importance. These transformations are likely to have significant repercussions on bla-bla-bla-bla and the American political system.

⁶Other services subsumes Utilities, Construction, Retail and Wholesale Trade, Information, Transportation, Professional and Business Services, Health, Education, Renting and Leasing, Art, and Other services.



Conclusion

Financialization is one of the most significant structural changes that has affected the American political economy during the last fifty years. Between the late 1970s and today, the financial services industry has increased dramatically in absolute size, and its growth has been more rapid than that of the entire economy. As a consequence, the size of this industry, measured as its contribution to total valued added, more than doubled over the period. Financialization has become prominent in the public eye as a result of the 2007-09 financial crisis and the widening gap between high income individuals and the American working class.

We have presented evidence to suggest that the global role of the US dollar has been a centrally important and, until now neglected, driver of financialization. The liberalization of cross-border capital flows in Europe and the emerging markets that began in the mid-1980s dramatically increased private demand for dollar-denominated assets across the world. The lessons that governments drew from the way the IMF responded to the Asian financial

crisis in the mid-1990s caused a sharp increase of the public demand for dollar-denominated assets to hold as reserves. As global demand for dollar-denominated assets has increased, the American financial services industry has expanded to meet the demand. To do so the industry as a whole has operated as a global venture capitalistit has borrowed from the rest of the world by offering low risk, short term dollar denominated assetssentially selling treasury bills and bonds as well as agency bonds to foreign public agencies and private individuals and it has used the funds to invest in relatively higher risk assets.

Our focus on international drivers of American financialization constitutes a rather large departure from existing research on this topic. Other work attaches greatest causal significance to changes of financial regulation that occurred during the 1980s and 1990s. This account incorporates sins of commissionremoving the Glass-Steagall prohibition on universal banksas well as sins of omissionfailing to regulate derivatives, hedge funds, and other innovative practices. And this work links changes in financial regulation to the political influence of American financial institutions through the politics as organized combat perspective. Although regulatory reform certainly played an important part in the restructuring of the American financial system, we are skeptical about its causal significance for the growth of financial services. The temporal sequence does not match, the financial institutions that pushed for reform did so from a position of weakness rather than strength, and federal reforms codified changes in practice. Moreover, regulatory change did not alter either the type or volume of financial assets that institutions could offer. Nor did it make it easier for new financial institutions to enter the industry. Instead, regulatory reform merely allowed single financial holding companies to offer a wider portfolio of services.

References

- [1] Bank for International Settlements. 2015. No Title. Triennial Central Bank Survey of foreign exchange and derivatives market activity in 2013. <http://www.bis.org/publ/rpfx13.htm>.
- [2] Barth, James R., James A. Wilcox, and R. Dan Jr. Brumbaugh. 2000. The Repeal of Glass-Steagall and the Advent of Broad Banking. *Journal of Economic Perspectives* 14(2): 191204.
- [3] Davis, Gerald F., and Suntae Kim. 2014. Financialization of the Economy. *Annual Review of Sociology* 41(1): 150504162558008. <http://www.annualreviews.org/doi/abs/10.1146/annurev-soc-073014-112402>.
- [4] Epstein, Gerald. 2006. Introduction: Financialization and the World Economy. *Financialization and the World Economy*: 316.
- [5] Fligstein, Neil, and Adam Goldstein. 2015. The Emergence of a Finance Culture in American Households, 1989-2007. *Socio-Economic Review* 13(3): 575601.
- [6] Goldberg, Linda. 2011. The International Role of the Dollar: Does It Matter If This Changes? Staff Report, Federal Reserve Bank of New York (522 October).
- [7] Gourinchas, Pierre-Olivier, and Helene Rey. 2007. From World Banker to World Venture Capitalist: US External Adjustment and the Exorbitant Privilege. In *G7 Current Account Imbalances: Sustainability and Adjustment*, University of Chicago Press. Book Section, 1166.
- [8] Hacker, Jacob S., and Paul Pierson. 2010. 38 Politics Society Winner-Take-All Politics: Public Policy, Political Organization, and the Precipitous Rise of Top Incomes in the United States. <http://pas.sagepub.com/cgi/doi/10.1177/0032329210365042>.
- [9] Johnson, Simon, and James Kwak. 2010. *13 Bankers: The Wall Street Takeover and the Next Financial Meltdown*. New York: Pantheon. Book.
- [10] Kelly, Nathan J. 2005. *Political Choice, Public Policy, and Distributional Outcomes*.

- American Journal of Political Science 49(4): 86580.
- [11] . 2009. *The Politics of Income Inequality in the United States*. New York: Cambridge University Press. Book.
- [12] Kindleberger, Charles P. 1965. *Balance of Payments Deficits and the International Market for Liquidity*. Princeton.
- [13] Klebaner, Benjamin J. 1958. The Bank Holding Company Act of 1956. *Southern Economic Journal* 24(3): 313. <http://www.jstor.org/stable/1055064?origin=crossref> (July 13, 2016).
- [14] Krippner, Greta R. 2005. *The Financialization of the American Economy*. *Socio-Economic Review* 3(2): 173208. <http://ser.oupjournals.org/cgi/doi/10.1093/SER/mwi008> (September 30, 2016).
- [15] . 2011. *Capitalizing on Crisis: The Political Origins of the Rise of Finance*. Cambridge: Harvard University Press. Book.
- [16] Kroszner, Randall S, and Philip E Strahan. 1999. What Drives Deregulation? Economics and Politics of the Relaxation of Bank Branching Restrictions. *The Quarterly Journal of Economics* 114(4): 143767.
- [17] Lapavitsas, C., and J. Powell. 2013. Financialisation Varied: A Comparative Analysis of Advanced Economies. *Cambridge Journal of Regions, Economy and Society* 6(3): 35979. <http://cjres.oxfordjournals.org/cgi/doi/10.1093/cjres/rst019> (September 30, 2016).
- [18] Mulloy, Patrick, and Cynthia Lasker. 1995. The Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994: Responding to Global Competition. *Journal of Legislation* 21. <http://heinonline.org/HOL/Page?handle=hein.journals/jleg21id=263div=collection=> (September 30, 2016).
- [19] Omarova, Saule T., and Margaret E. Tahyar. 2011. That Which We Call a Bank: Revisiting the History of Bank Holding Company Regulations in the United States. *Review of*

- Banking and Financial Law 31. <http://heinonline.org/HOL/Page?handle=hein.journals/annrbfl31id=>
(July 11, 2016).
- [20] Pagliari, Stefano, and Kevin Young. 2016. The Interest Ecology of Financial Regulation: Interest Group Plurality in the Design of Financial Regulatory Policies. *Socio-Economic Review* 14(2): 30937. <http://ser.oxfordjournals.org/lookup/doi/10.1093/ser/mwv024>.
- [21] Palley, Thomas I. 2007. Financialization: What It Is and Why It Matters. *The Levy Economics Institute Working Paper Collection* (525): 31. <http://www.unhcr.org/refworld/country,,RS>
- [22] Parenteau, R. 2006. The Late 1990s US Bubble: Financialization in the Extreme. In *Financialization and the World Economy*, ed. Gerald Epstein. Northampton, MA,: Edward Elgar.
- [23] Philips, Andrew Q., Amanda Rutherford, and Guy D. Whitten. 2016. Dynamic Pie: A Strategy for Modeling Trade-Offs in Compositional Variables over Time. *American Journal of Political Science* 60(1): 26883.
- [24] Tomaskovic-Devey, D., and K.-H. Lin. 2011. Income Dynamics, Economic Rents, and the Financialization of the U.S. Economy. *American Sociological Review* 76(4): 53859.
- [25] Volscho, T. W., and N. J. Kelly. 2012. The Rise of the Super-Rich: Power Resources, Taxes, Financial Markets, and the Dynamics of the Top 1 Percent, 1949 to 2008. *American Sociological Review* 77(5): 67999.
- [26] Witko, Christopher. 2016. The Politics of Financialization in the United States, 1949-2005. *British Journal of Political Science* 46(2): 34970.
- [27] Yeager, Timothy J., Fred C. Yeager, and Ellen Harshman. 2007. The Financial Services Modernization Act: Evolution or Revolution? *Journal of Economics and Business* 59(4): 31339.

Variables

Variable	Definition	Source
Value added of financial inter-mediation (vafi)	Value added of financial inter-mediation as a share of the value added of the entire economy.	Bureau of Economic Analysis (2016)
Financial Income Share (FINSH)	Income of all domestic financial intermediaries as a share of national GDP.	Philippon (2014)
Real financial output (FINOUT)	The value of all goods and services produced by the financial sector as a share of national GDP.	Philippon (2014)
Capital Account Liberalization (kaopen)	Unweighted average of the Chinn and Ito index for all countries included in the dataset in a given year.	Chinn and Ito (2015)
Global USD reserves (Forex Reserves)	Logged value of the amount of international dollar reserves in a given year.	FED (2016)
Mobilization of the financial industry (FIREmob)		Witko (2015)
Financial deregulation (Dereg)	A cumulative index reflecting major legislative acts affecting the financial industry.	Witko (2015)
Financial deregulation (DeregInd)	An index accounting for: 1) bank branching restrictions, 2) separation of commercial and investment banking, 3) interest rate ceilings, and 4) the separation of banks and insurance companies.	Philippon and Reshef (2012)
Union density (uniondense)	The percentage of non-agricultural workers covered by union collective bargaining agreements.	Witko (2015)
Democratic control (demcont)	An additive index reflecting whether Democrats control the Presidency, the House, and the Senate.	Witko (2015)
Inflation (inflation)		Witko (2015)
Use of stock options as executive compensation (options)	The average value of stock option grants for the three highest executives of a large sample of companies.	Witko (2015), Frydman and Molloy (2011)
Federal funds rate volatility (fedfrvol)	The absolute change in the federal funds rate from the previous year as a proportion of the total rate in the previous year.	Witko (2015), FED (2016)
Real growth rate of non-financial corporate profits (realnfpgro)		Witko (2015), BEA (2015)

Descriptive Statistics

Table 4: Descriptive Statistics

	Obs	Mean	Std. Dev.	Min	Max
Value added by Finance	59	4.767	1.551	2.3	7.7
Financial Income Share	64	0.052	0.017	0.028	0.085
Real financial output	63	5.209	3.974	0.879	14.889
Forex reserves	56	27.079	1.949	23.798	30.112
Capital account openness	45	0.429	0.082	0.335	0.568
FIRE mobilization	59	0.118	3.628	-6.727	10.807
Deregulation	59	2.492	3.426	0	11
Deregulation index	60	-1.661	1.222	-2.833	1
Union density	59	23.792	7.226	12.5	32.5
Democratic control	59	1.847	0.979	0	3
Inflation	58	0.039	0.029	-0.012	0.135
Non-financial profit growth rate	58	.024	.138	-.229	.306
Stock options	59	0.779	1.342	0	7.450
Federal funds rate volatility	53	0.312	0.268	0.021	1.323

Additional Visuals

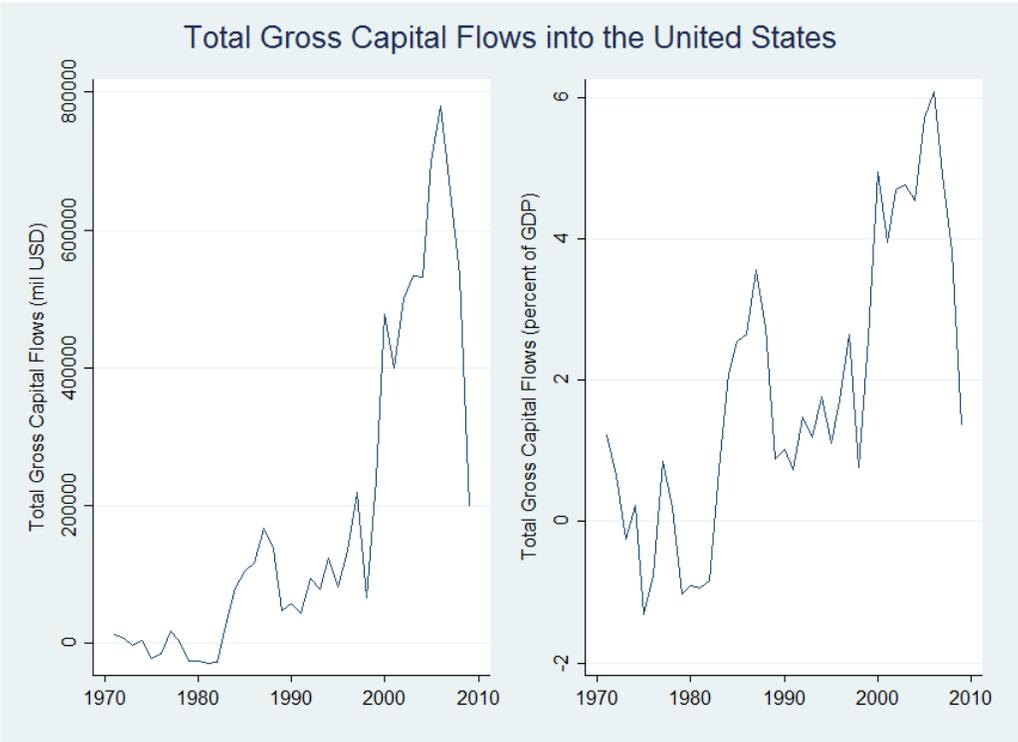
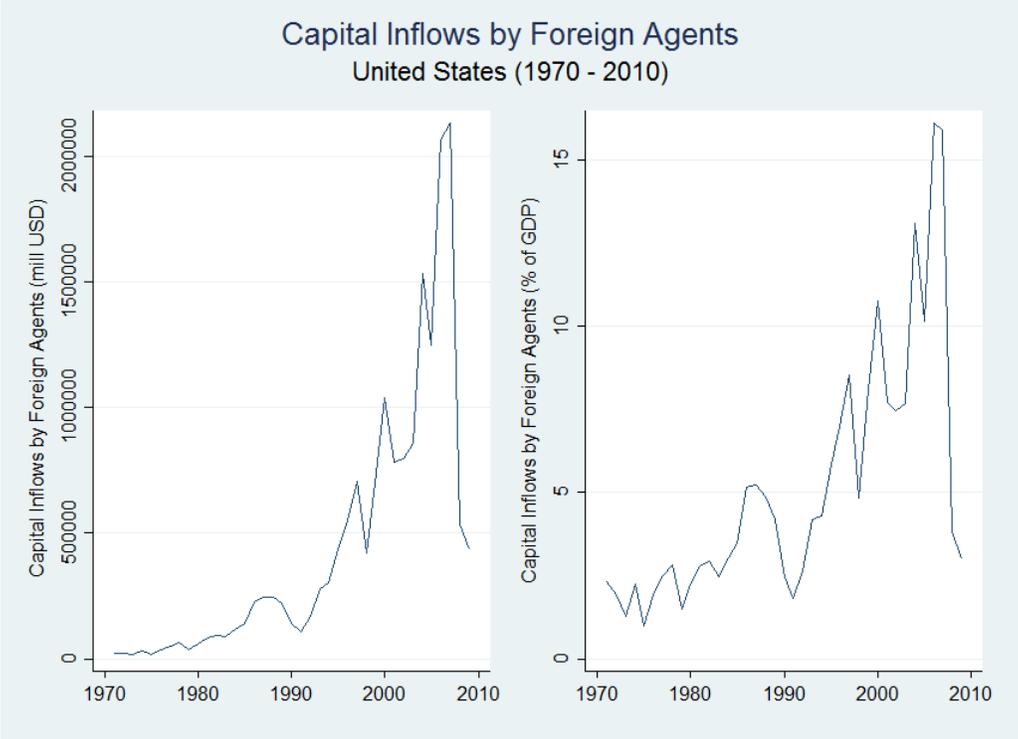


Table 5: Correlation Matrix

	Vafi	FinInc	FinOut	Forex	CAO	Firem	Dereg	DeregIn	Union	DemCt	Infl	NFP	Options	FFRV
Vafi	1.00													
FinInc	0.99	1.00												
FinOut	0.96	0.96	1.00											
Forex	0.97	0.96	0.94	1.00										
CAO	0.86	0.87	0.89	0.87	1.00									
Firem	-0.20	-0.21	-0.26	-0.12	-0.15	1.00								
Dereg	0.98	0.98	0.98	0.95	0.88	-0.24	1.00							
DeregIn	0.97	0.98	0.96	0.93	0.82	-0.27	0.98	1.00						
Union	-0.95	-0.93	-0.87	-0.94	-0.72	0.13	-0.91	-0.91	1.00					
DemCont	-0.61	-0.62	-0.67	-0.55	-0.54	0.44	-0.69	-0.67	0.54	1.00				
Infl	-0.66	-0.65	-0.60	-0.54	-0.51	0.35	-0.65	-0.65	0.65	0.50	1.00			
NFP	-0.05	-0.06	-0.13	-0.04	-0.02	0.09	-0.07	-0.08	0.04	0.09	-0.24	1.00		
Options	0.72	0.72	0.74	0.67	0.69	-0.28	0.72	0.67	-0.62	-0.44	-0.46	-0.13	1.00	
FFRV	0.21	0.24	0.20	0.15	0.22	-0.15	0.24	0.26	-0.05	-0.18	-0.07	0.06	0.02	1.00